AMENDMENTS TO THE SPECIFICATION

In the Specification

Please replace paragraph **[0014]** beginning on page 7 with the following amended paragraph:

[0014] Microresonator 112 may provide a resonant frequency spectrum that is a function of the size of the microresonator 112. An ideal microresonator 112 may be defined as being able to confine light indefinitely without loss and would have resonant frequencies at precise values. The quality factor (Q factor) of microresonator 112 may describe deviation from an ideal microresonator. Higher quality factors may be obtained, for example, by minimizing surface roughness that may cause light scattering. Surface roughness may be a determining factor in waveguide losses, so the techniques utilized to reduce surface roughness in waveguides may be similarly applied to microresonator 112. With lower losses as obtained by reduced surface roughness, stimulated emission may be obtained as photons travel around the microresonator, and in one embodiment [[lasing may be obtained]] <u>the microresonator may lase</u>, although the scope of the invention is not limited in this respect. In one embodiment of the invention, stimulated emission may be obtained by utilizing silicon nanocrystals in SiO_2 for example by utilizing pulsed pumping, although the scope of the invention is not limited in this respect.

Please replace paragraph **[0015]** beginning on page 7 with the following amended paragraph:

[0015] Referring now to FIG. 4, a diagram of simulations of light coupling from a waveguide to a microring resonator in accordance with an embodiment of the present

invention will be discussed. The simulations 410, 412, and 414 of FIG. 4 show the field distribution after a discrete Fourier transform (DFT) for the center wavelength in a waveguide 114 adjacent to a microring 120 microresonator 112 as shown in FIG. 1. Simulation 410 does not contain an integer multiple of wavelengths around the ring for a wavelength of 1650 nanometers. Simulation 412 shows a near integer multiple of wavelengths in the ring for a wavelength of 1400 nanometers. Simulation 414 shows an integer multiple of wavelengths for a wavelength of 1413 nanometers. As can be seen in the simulation 414, the field strength is higher in microring 120 than in waveguide 114 because microring 120 is in a resonance condition. In accordance with one embodiment of the invention, microring 120 may be formed to have an overall length, measured from the center of the waveguide portion of the microring that forms the ring structure, [[making the ring being]] <u>that is</u> an integer multiple of a desired wavelength. Such a length may be calculated as $2\pi R$ where R is the radius from the center of the ring structure to the center of the waveguide forming the ring structure, although the scope of the invention is not limited in this respect.